Building Code Effectiveness Grading: In Brief

- The Building Code Effectiveness Grading Schedule (BCEGS) assesses the building codes in effect in a particular community and how the community enforces its building codes, with special emphasis on mitigation of losses from natural hazards.
- The concept is simple: municipalities with effective codes that are well enforced should demonstrate better loss experience, and insurance rates can reflect that. The process of lessening catastrophe related damage and ultimately lowering insurance costs provides an incentive for communities to enforce their building codes rigorously, especially as they relate to windstorm and earthquake damage.
- The anticipated upshot: safer buildings, less damage and lower insured losses from catastrophes.
- The BCEGS program will assign each graded municipality a BCEGS grade of 1 (best) to 10 (no recognized building code enforcement). The Property Insurance Association of Louisiana (PIAL) will develop advisory rating credits that apply to ranges of BCEGS grades. Insurers will be provided the BCEGS classifications and advisory credits.

What? Why? When? And What Do I Do?

What is the Building Code Effectiveness Grading Schedule?

The Building Code Effectiveness Grading Schedule (BCEGS) assesses the building codes in effect in a particular community enforces its building.

BCEGS particularly emphasizes building code requirements designed to mitigate losses from natural hazards. BCEGS develops a relative Building Code Effectiveness Classification (or grade) for each community for insurance rating and underwriting purposes. BCEGS is similar in concept to PIAL's Public Protection Classification (PPC) evaluations of Public Fire Protection capabilities used by insurers for decades.

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Why is BCEGS needed?

BCEGS will encourage the implementation and enforcement of effective building codes, resulting in safer buildings, less damage and lower insurer losses from catastrophe's.

Insured catastrophe losses of $17 billion made 1994 the second-worst catastrophe year on record. In 1992, catastrophe losses reached $23 billion, largely because of Hurricane Andrew.

Serious natural disasters have recently occurred with greater frequency and high-risk areas are becoming more populous. More than half the U.S. population, some 135 million people, is now living near one of our nation's coasts, the most wind-storm prone areas. Windstorms, hurricanes, tornados and tropical storms account for almost 80% of the insurance industry's catastrophe losses since 1986.

Studies of various catastrophes, including Hurricane Andrew, graphically demonstrate that effective building code enforcement reduces loss in catastrophic events.

According to Best's Review, experts estimate that Hurricane Andrew losses could have been reduced by 30% to 40% if building codes had been enforced. A study by Factory Mutual Insurance Group shows that damage to the majority of buildings inspected after Hurricane Andrew could have been reduced by up to 55% if building codes had been enforced.

After Hurricane Andres, photos of Homestead, Florida showed homes on one side of a street completely destroyed, while homes on the other side were still standing. Later inspections determined that the destroyed structures were build well below code requirements.

We can't control where people live. But we can encourage more effective enforcement of municipal building codes. BCEGS will provide that encouragement.

Who Developed BCEGS? Where Did It Come From?

The Insurance Services Offices, Inc. (ISO) worked closely with the Insurance Institute For Property Loss Reduction (IIPLR) to develop BCEGS. In developing the program, ISO also tapped into the expertise of three organizations that produce model building codes: the International Conference of Building Officials, the Southern Building Code Congress International and the Building Officials and Code Administrators International, as well as from 1,500 building code officials. ISO pilot-tested the program in 150 communities in Florida, Georgia, Notrh Caroilna and South Carolina to further refine the grading criteria.

What are the benefits of BCEGS?

BCEGS has the potential to:

- Improve building codes, building departments and code enforcement
- Lead to better, more catastrophe-resistant buildings
- Reduce property losses from catastrophes
- Reduce the economic and social disruption that results from a catastrophe's serious and widespread destruction
- Improve the public perception of the insurance industry bt displaying the industry's commitment to address the catastrophe peril.

Can insurers actually expect this program to reduce losses, or is this just a "politically correct" program for the industry?

Insurers are confident that in the long term this program will reduce insured property losses due to natural hazards. Insurers are also confident that the program will reduce bodily injury and save lives.

What are the marketplace implications of BCEGS?

Insurers using the rating discounts for risks eligible for the program may have a competitive advantage over insurers not using the discounts. Insurers using the program can highlight that point in their marketing. Also, insurers offering the discount may seize the opportunity to market their

coverages in areas with significant new-home construction where many buildings will be eligible for the discounts.

When, where and how will BCEGS be implemented?

Full implementation is scheduled for January 01, 1998. The first step in the implementation process was PIAL's filing and the insurance regulator's' approval/acknowledgement of the Building Code Effectiveness Grading Schedule. PIAL representatives will begin grading individual municipalities in the state at their request. As municipalities'/communities' are graded, the grades will be published similar to the Public Protection Classification, which reflect PIAL's assessments of public fire protection capabilities.

Concurrent with the grading of the municipalities'/communities' building code effectiveness, PIAL will develop and file BCEGS advisory rating credits to be applied to rates for personal and commercial property coverages in each community. PIAL will also file manual rules to be used with the credits. Once the filings are approved/acknowledged and become effective, insurers can automatically apply the credits in any municipality where grading has been completed.

Why is this program applicable only to the natural hazards of wind and earthquake?

The program applies to all natural hazards. The hazards of wind and earthquake have been more clearly addressed in the model building codes, and experts maintain that if buildings are constructed according to requirements of the model building codes, losses from wind and

earthquake will be mitigated. If adequate codes are properly enforced, losses from other perils also should be reduced.

What determines a municipality's code effectiveness grade?

What is a community's grade based on?

A community's grade is based on:

Background data, including natural hazards common to the area, number of inspection permits issued, number of inspections completed, building department's funding mechanism and date of establishment, size and population of the jurisdiction , and the fair market value of all buildings.

Administration of codes, including building code edition in use, modification of the codes, zoning provisions to mitigate natural hazards, training of code enforcers, certification of code enforcers, incentives for outside education/certification, building officials' qualifications, contractor/builder licensing and bonding, public-awareness programs, and participation in code development activities and the appeal process.

Review of building plans, including staffing levels, qualifications, level of detail of plan review, performance evaluations, and review of plans for one and two family dwellings, multi-family dwellings, and commercial buildings.

Field inspections, including staffing levels, qualifications, level of detail of inspections, performance evaluations, final inspections and issuance of certificates of occupancy.

What is the grading process?

PIAL will distribute detailed questionnaires to all municipal and parish building officials in the state which meet the minimum criteria. After completion of the questionnaire, PIAL will arrange for a field representative to meet at a mutually convenient time at the community site with each municipality's/parish's building officials. The PIAL representative and building officials will review and verify the community's capabilities together. Supporting documentation and clarification will be obtained as necessary. The field representative also may visit construction sites with building officials. The PIAL field representative will then tabulate the points "scored or credited" on the various sections of the schedule and assign a grade from 1 (best) to 10 (no recognized building code enforcement).

What are the grades that will be applied to a community?

Communities will be graded on a scale of 1 to 10, with "1" representing full compliance with the model building code in effect in a state as well as maximum enforcement and staff expertise, and "10" representing no recognized building code enforcement.

Will communities rated "10" have any incentive to improve their rating?

Any community with a grade other than "1" has these incentives to improve its grade:

- the prospect of reduced property losses, reduced injuries and loss of life, and reduced economic and social disruption caused by catastrophes

- the prospect of lower insurance rates on buildings constructed after the community improves its grade

- pride and professionalism of the community building department to be the best it can be

- good public policy

Does a city have incentives to raise fees or taxes to improve code enforcement other than just so the insurance industry can cut losses?

The primary incentive for communities to commit resources to ensure proper code enforcement should be to reduce the risk of property loss, loss of life, and economic and social disruption that result from natural catastrophes. Communities with good enforcement can expect commensurate reductions in property insurance rates. The program provides for premium credits only, not surcharges or increases.

BCEGS is a useful, objective evaluation tool to assess the resources and support available for building code enforcement relating to natural hazard mitigation. The BCEGS program was developed by ISO with significant input from the three model code groups plus responses to surveys sent to more than 7,500 building officials countrywide.

With BCEGS, communities are measured against objective standards, highlighting where resources can be applied to improve performance and a community's grade in the future.

Once a community is evaluated for building codes, and a grade is established, how often will the grade be subject to change?

The plan is to regrade each community every five years. If PIAL is notified of a change that could affect the grade before the five year regrading, PIAL will regrade the community sooner, as our schedule permits.

Will a community get only one grade, or will different grades apply to different types of properties?

Some municipalities don't adopt or enforce codes for buildings with two or fewer families, but do enforce codes for buildings with three or more families or for commercial occupancies. For such municipalities, separate grades will apply. One and two family dwellings will be classified as a grade 10, while all other properties will receive the community's grade. The insurance manual's rules will advise which grade to use for a particular risk.

What happens when a community is graded?

When a community is graded, the grade automatically applies to any building receiving a certificate of occupancy in the year the grading is effective or later years. Once a grade is assigned to a building, based on the community grade in effect at the time the building is constructed, that grade will remain with that building, even if a community is subsequently regraded.

What happens when a community is regraded?

The new classification will apply to buildings receiving a certificate of occupancy in the year the new classification becomes effective and later years. It is conceivable that as a building department improves over time, a community could have more than one grade. The applicable grade for any building would depend on its certificate of occupancy date.

To consider a specific example: what happens to buildings that were constructed in 1997 when a town was grade 5, and then again in 2002 when the town is regraded to a 2?

The grade assigned to a building will be the grade in effect in the year the building receives a certificate of occupancy. The grade that applies to a building will not change as a result of a municipality's subsequent changes in code effectiveness that result in a different grade for the municipality. The new municipal grade will apply only to buildings constructed when the new municipal grade is effective.

Thus, in this example, the buildings constructed from 1997 through 2001 would receive a grade of 5, and buildings constructed in 2002 or later would receive a grade of 2.

How can a building department be best prepared for this grading? What resource materials should be available?

Documentation should be available that would support questionnaire answers. For example: copies of employee code certifications, training records, the building code agency's budget, number of inspections and plan reviews performed (by type: one and two family dwellings, multi-family residential, and commercial and industrial structures). In addition, records on the amount of time spent on public awareness programs will help complete the grading.

Are grades established relative to the codes and level of enforcement in place at that time? Or are grades established on an absolute scale, so that meeting certain criteria always results in the same grade?

The grade system looks at one year's worth of documentation and effectively takes a snapshot in time. It considers the model code in effect at that time as well as the municipality's resources and enforcement level.

These are dynamic elements. Thus, a community graded in 1996 could possibly be evaluated against a different code than a community graded in 2006. For example, in 2006, a community that retains its 1996 code rather than adopt a more stringent code prevailing in 2006 would receive a less favorable grade.

Was this schedule prepared for very large jurisdictions, unfairly penalizing some small cities?

The schedule was written to assess the risk of property loss irrespective of a jurisdiction's size A structure does not stand any different chance of survival in a small community than a large community when both share an equal commitment to code adoption and enforcement.

How does BCEGS compare with the Public Protection Classification system for grading communities' fire protection capabilities?

BCEGS was modeled after the long standing fire program, which assesses municipal fire departments and water supplies. The similarities include the grading scale of 1 to 10, with 10 representing no recognized building code enforcement and a reliance on recognized standards as reference points for grading. The fire-protection grading system, which began in 1916, was an insurance industry response to fire losses and has been a fundamental factor in developing insurance premiums ever since.

The main difference is that changes to a community's fire department and water supply affect the potential risk to all structures in the community, while changes to a community's building department affect the potential risk only to structures built after the change.

How long after grading occurs will the building department become aware of its grade?

Usually within 3 months.

How flexible is the process in recognizing effective local programs that may be unique and innovative? Is there a special provision in the grading schedule? Are innovative initiatives considered for extra credit, or are they not considered at all?

The BCEGS program is designed to be a performance related program. That is, it represents the degree of the risk for property loss within a jurisdiction as a function of the community's commitment to building code enforcement, with a major emphasis on mitigation of natural hazard damage. Although BCEGS relies on recognized standards as the foundation for code adoption, BCEGS can recognize alternative methods of enforcing those codes. These alternative methods, if effective and equivalent to industry standards, will be recognized by the program.

Is there a cost associated with the grading process?

All of the costs are borne by the insurers using the information delivered by the program. Municipalities and taxpayers won't incur any costs associated with this program.

How do building code effectiveness grades affect insurance pricing?

How will insurance rates be affected by BCEGS?

PIAL will file advisory rating programs, including rating credits for the Commercial Fire and Allied Lines, Businessowners, Homeowners and Dwelling lines of insurance. The credits apply to various ranges of BCEGS classifications.

Any building constructed in the year a community is graded or later will be eligible for the program. Grades of 9 and lower (down to 1) will receive a rating credit. A grade of 10 will receive no credit.

Will separate factors apply to personal and commercial risks?

Yes. The building code rating credit factors are developed separately for each line of insurance.

Will there be separate factors by territory?

Yes. For each line, each territory will have its own rating credit factor, based on loss information and other data specific to that territory.

Will rates be increased for buildings in communities graded 8, 9, or 10, for example?

No. No rate increase will be implemented with BCEGS. It is a credit only program.

Why do grading schedule credits apply only to new buildings? Why not to existing buildings?

The BCEGS program is intended to promote a long term reduction in catastrophe damage in graded communities. In most cases, staff turnover, model code revisions and updates, or a lack of record keeping makes it impossible to measure a building department's effectiveness retroactively. So BCEGS will apply only to buildings receiving a certificate of occupancy in the year a community is graded or later.

Will the existing building stock be treated as grade 10?

Existing buildings are not subject to the program. Advisory rates for these buildings are not affected. The program and potential credit, based on a municipality's grade, applies only to buildings receiving a certificate of occupancy in the year a community is graded or later, when code enforcement standards are known. But individual existing properties can receive the best grade (Class 1) and be eligible for associated credits if a registered design professional (architect of engineer) certifies that the structure was designed and built according to the natural hazard provisions of a nationally recognized code.

Is there any rating impact on the existing building stock? Will rates go up for the existing building stock to balance the credits for new buildings?

No. The existing building stock is not affected.

What happens when communities are regraded?

When a community is first regraded, the new grade applies to buildings built in the year the new grade becomes effective or later. The previous grade continues to apply to buildings built from the effective date of the first grade up to the effective date of the regrading.

If an individual building in a community has been built according to a nationally recognized code, could this property get a better BCEGS grade than the community in which it is located?

Yes, through an individual building certification process. If a registered design professional inspects the building and certifies that it is designed and built to the natural hazard provisions of a nationally recognized code, the building will receive the highest possible grade.

Can an entire community be eligible for Building Code Grade 1 through a certification by a qualified inspector, or are only individual buildings that meet the appropriate criteria eligible?

The community's commitment to code enforcement will be measured by PIAL's grading process. An individual risk can be individually certified by a registered design professional to receive a Grade 1. A whole community cannot alter its grade except through a regrading of the entire community.

How does individual-risk certification work?

Individual properties, no matter when constructed, can be inspected by a registered design professional and, if certified to be in conformance with one of the nationally recognized building codes with respect to mitigation of natural hazards, will be given a grade of a 1.

If a building is certified to be in compliance with a nationally recognized code, when does the credit apply?

Credits will only apply from the date of certification.

What about this situation: an insured's building does *not* qualify for a credit, while the building next door, build by the same builder but only a year or two later, *does* qualify? How can that be explained?

There is no way to retroactively determine the effectiveness of building code enforcement that prevailed when the older building was constructed. But the older building's owner can receive a credit, if a design professional certifies that his building was constructed in accordance with the natural hazard provisions of a nationally recognized model building code.

How often, if ever, will the gradings change?

Each community will be regraded every five years, and its grade may or may not change, depending upon what is found. Grades for existing buildings will not change as a result of the community regrading.

Who makes the ultimate determination if an individual property qualifies for the individual risk certification?

Each insurer will make its own individual determination as to the conditions under which a property will qualify for individual risk treatment.

Does the year of construction ever change for a risk?

If a risk undergoes a major renovation, requiring the issuance of a new certificate of occupancy or legal equivalent, the year of construction for that risk will change.

Minimum Criteria for Applying the BCEGS Grading Schedule

Organization

The building department will be organized on a permanent basis under applicable state or local laws. The organization will include one person responsible for the operation of the department, usually with the title of Building Official.

The department must serve an area with definite boundaries. If the jurisdiction is not served by a building department operated solely by or for the governing body of that jurisdiction, the building department providing such services will do so under legal contract or resolution. When a building department's service area involves one or more jurisdictions, a contract should be executed with each jurisdiction served.

Building Code

A building code addressing the structural strength and stability necessary to provide resistance to natural hazards attributed to the built environment will be adopted and enforced.

Plan Review and Inspection

Review of construction documents and field review of building construction for compliance with the adopted building code will be done for building construction within the jurisdiction being graded.

Training

Training for code enforcement personnel will be conducted at least 6 hours every 6 months and be documented.